



Revised Reactor Oversight Process



Reasons for Change

- Reinventing Government
- Mature Industry
- Congressional Pressures



Four Key NRC Outcome Measures

- *Maintain Safety* by establishing regulatory oversight framework that ensures continued safe operation.
- *Enhance public confidence.*
- *Improve effectiveness, efficiency, and realism* of oversight process by focusing resources on most risk significance.
- *Reduce unnecessary regulatory burden.*



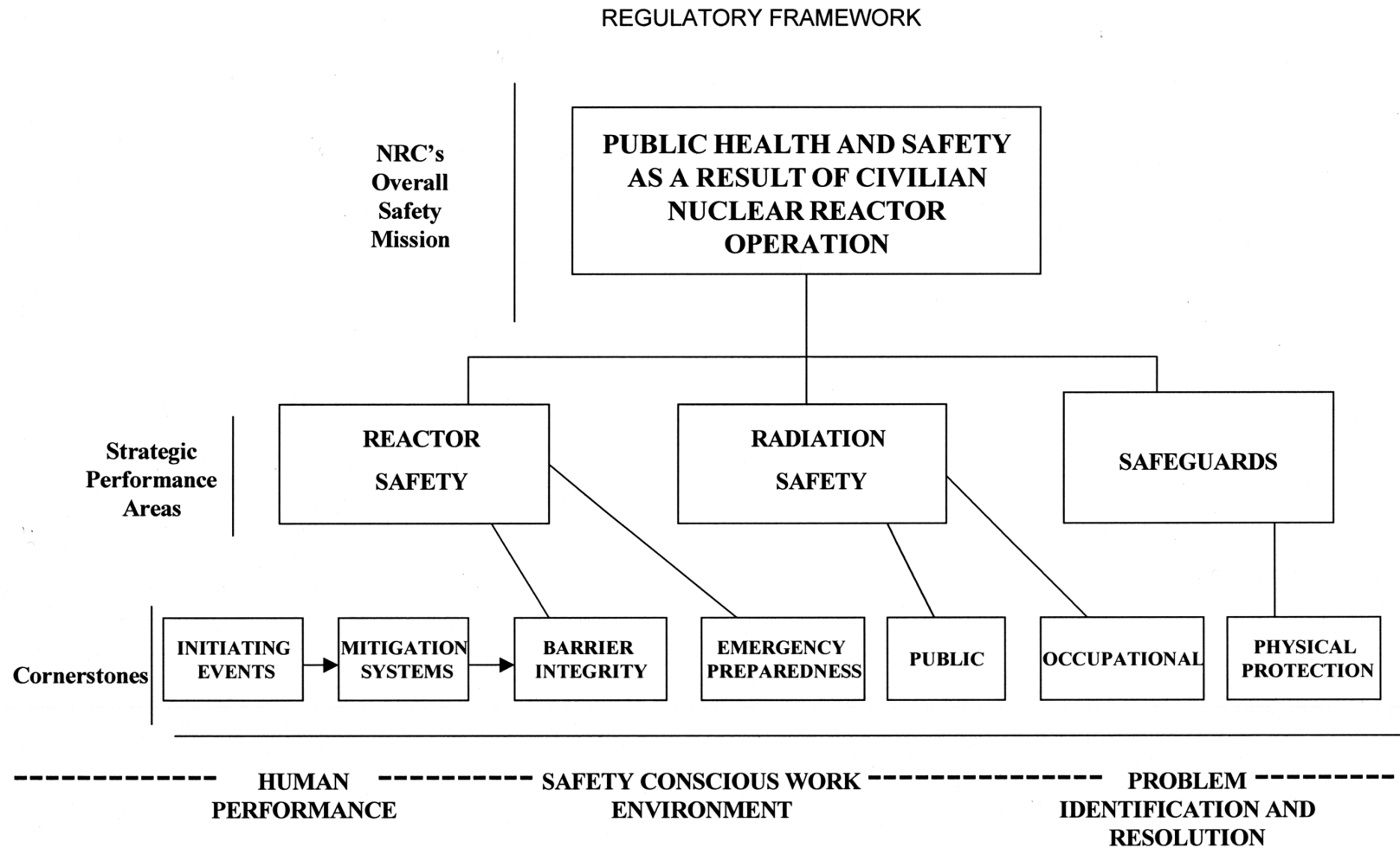
Features of Oversight Program

- Focuses inspections on activities where potential risks are greater.
- Applies greater regulatory attention to facilities with performance problems while maintaining a base level of regulatory attention on plants that perform well.
- Makes greater use of objective measures of plant performance.



Features of Oversight Program (Continued)

- Gives the industry and public timely and understandable assessments of plant performance.
- Avoids unnecessary regulatory burden.
- Responds to violations in a predictable and consistent manner that reflects the safety impact of the violations.





Reactor Safety Cornerstones

- Initiating Events - minimizing events that could lead to an accident.
- Mitigating Systems - Assures the ability of safety systems to respond and lessen the severity of an accident.
- Barrier Integrity - Maintains barriers to the release of radioactivity in an accident
- Emergency Preparedness - plans by utility and government to shelter or evacuate people in the event of an accident.



Radiation Safety Cornerstones

- Worker Safety
- Public Safety

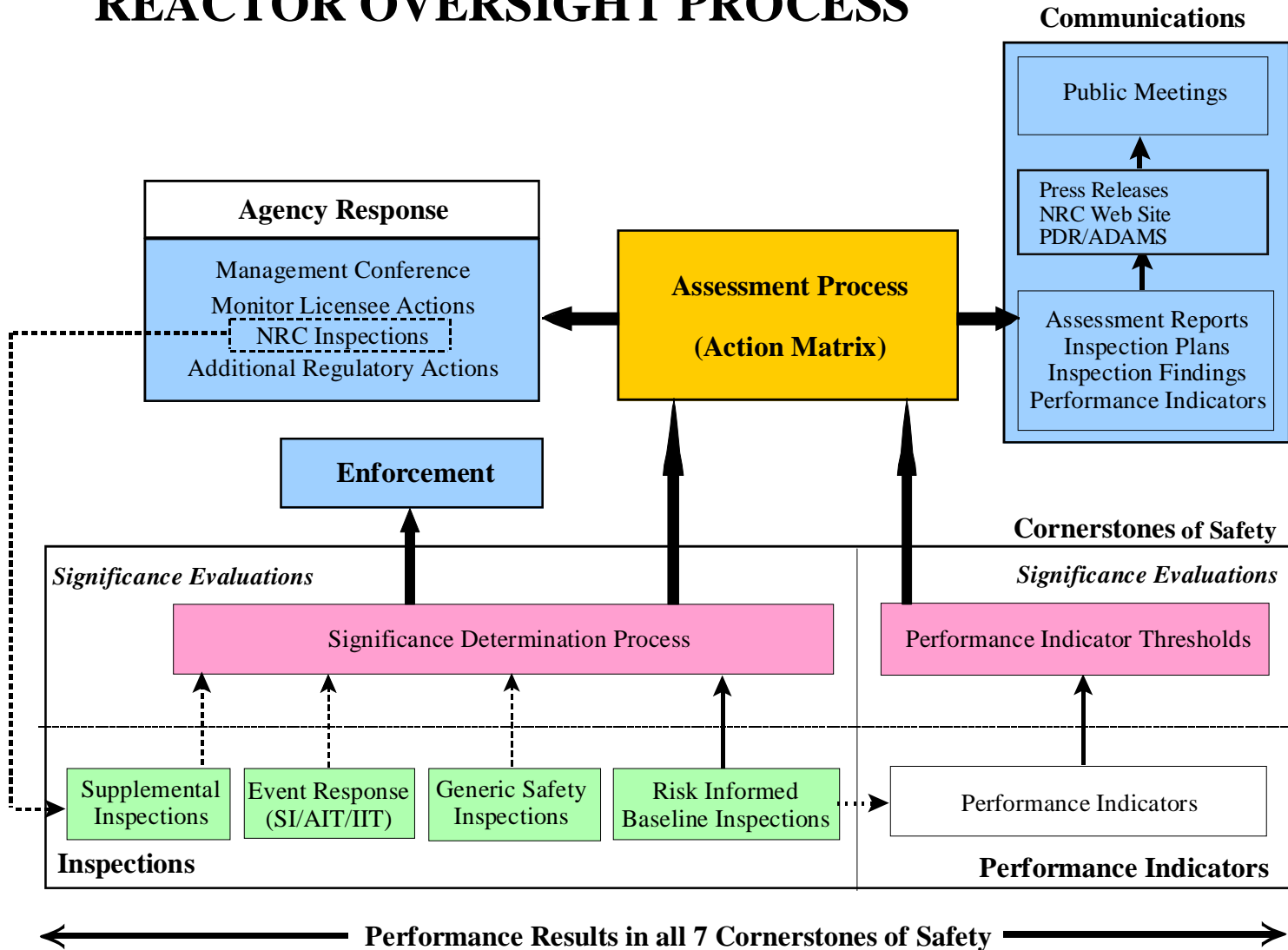


Safeguards Cornerstone

- Physical protection of the plant and control of nuclear fuel.



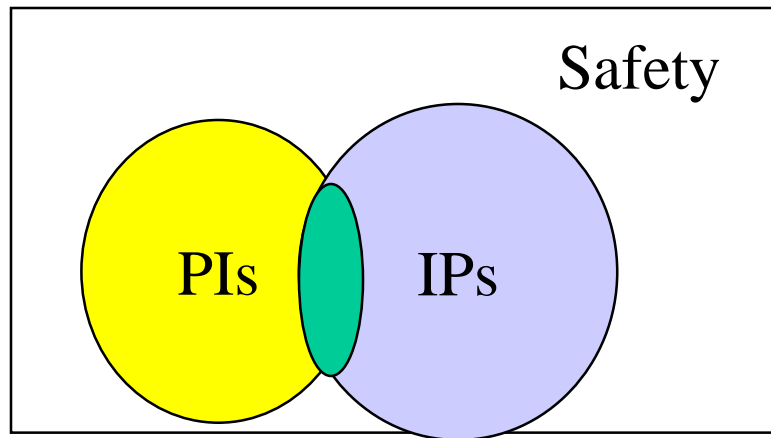
REACTOR OVERSIGHT PROCESS





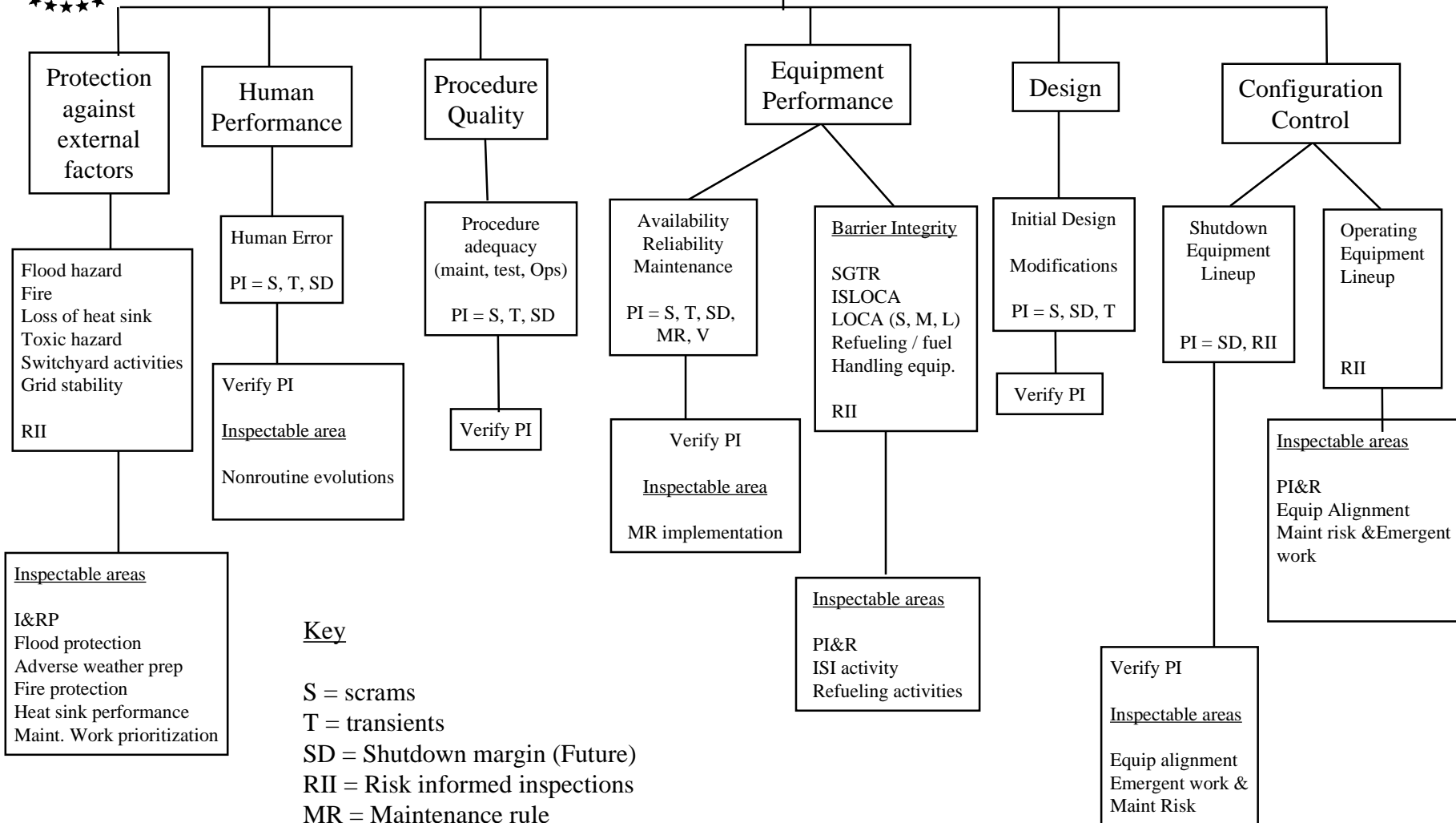
Assessing Performance

- Performance Indicators for each cornerstone
- Baseline Inspection Program





Initiating Event



Key

- S = scrams
- T = transients
- SD = Shutdown margin (Future)
- RII = Risk informed inspections
- MR = Maintenance rule
- V = Verification
- PI&R = Problem Identification & resolution
- ISI = Inservice inspections



Performance Indicators

- Performance Indicators use objective data to monitor performance in each of the cornerstone areas



Initiating Events Performance Indicators

- Unplanned scrams/trips
- Scrams/trips with loss of normal heat removal
- Unplanned changes in power



Mitigating Systems Performance Indicators

- Safety system unavailability
- Safety system failures



Barrier Performance Indicators

- Fuel cladding as measured by RCS activity
- RCS leak rate



Emergency Preparedness Performance Indicators

- Emergency Response Organization (ERO) drill performance
- Readiness of ERO
- Availability of Notification System



Radiation Safety Performance Indicators

- Compliance with access control requirements
- Uncontrolled radiation exposures
- Effluent releases requiring reports to NRC



Physical Protection Performance Indicators

- Security System Availability Index
- Personnel screening
- Fitness-for-duty program effectiveness



Baseline Inspection Program

- Minimum level of inspection conducted at all plants regardless of performance.
- Three basic parts:
 - Inspection in areas which performance indicators are not identified or do not fully cover a cornerstone.
 - Performance Indicator Verification.
 - Licensee problem identification and resolution program.



Other Inspections

- Supplemental Inspections as required for declining performance
- Event Response when determined to be necessary.
- Inspections when needed for resolution of generic issues.



Significance Determination Processes (SDP)

- The SDP is used to assign risk values (colors) to inspection findings.
- The SDP provides a methodology for equating inspection findings and PIs.
- SDPs exist for Reactor Safety, EP, Fire Protection, Occupational and Public Radiation Safety, and Safeguards.
 - Shutdown Screening and Containment SDPs are expected in the near future.



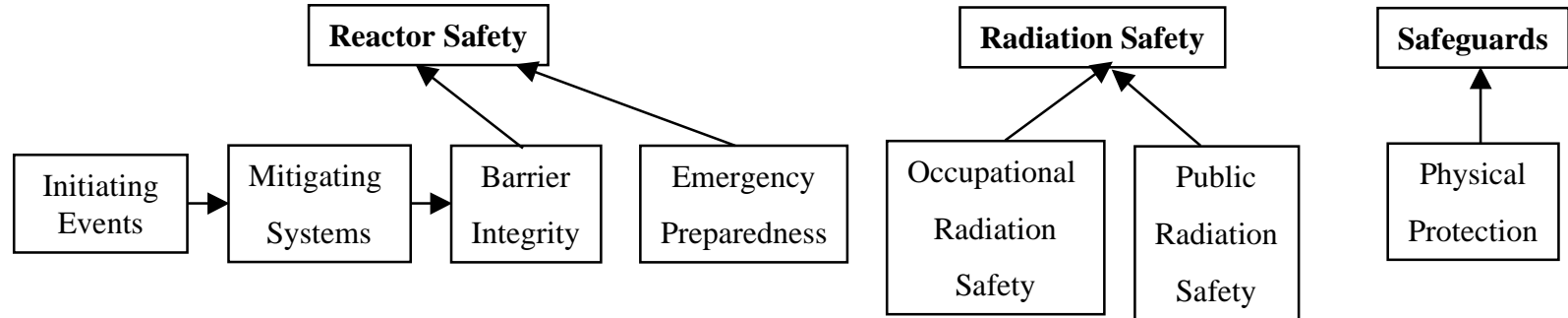
Levels of Significance Associated with Performance Indicators and Inspection Findings

- Green - very low risk significance
- White - low to moderate risk significance
- Yellow - substantive risk significance
- Red - high risk significance

$\Delta\text{CDF} < 1\text{E-6}$ Green
$1\text{E-6} < \Delta\text{CDF} < 1\text{E-5}$ White
$1\text{E-5} < \Delta\text{CDF} < 1\text{E-4}$ Yellow
$\Delta\text{CDF} > 1\text{E-4}$ Red



Web Page - Plant Performance Summary



Performance Indicators Based on data through November 30, 1999

Unplanned Scrams	Emergency AC Power System Unavailability	Reactor Coolant System Specific Activity	Drill/Exercise Performance	Occupational Exposure Control Effectiveness	RETS/ODCM Radiological Effluents	Protected Area Equipment
Scrams with Loss of Normal Heat Removal	High Pressure Injection System Unavailability	Reactor Coolant System Leakage	ERO Drill Participation			Personnel Screening Program
Unplanned Power Change	Heat Removal System Unavailability		Alert and Notification System			FFD/Personnel Reliability Program
	Residual Heat Removal System Unavailability					
	Safety System Functional Failure					

Initiating Events

Mitigating Systems

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Most Significant Inspection Findings

3Q/1999

No findings this quarter	Green	No findings this quarter	No findings this quarter	Green	No findings this quarter	No findings this quarter
--------------------------	-------	--------------------------	--------------------------	-------	--------------------------	--------------------------

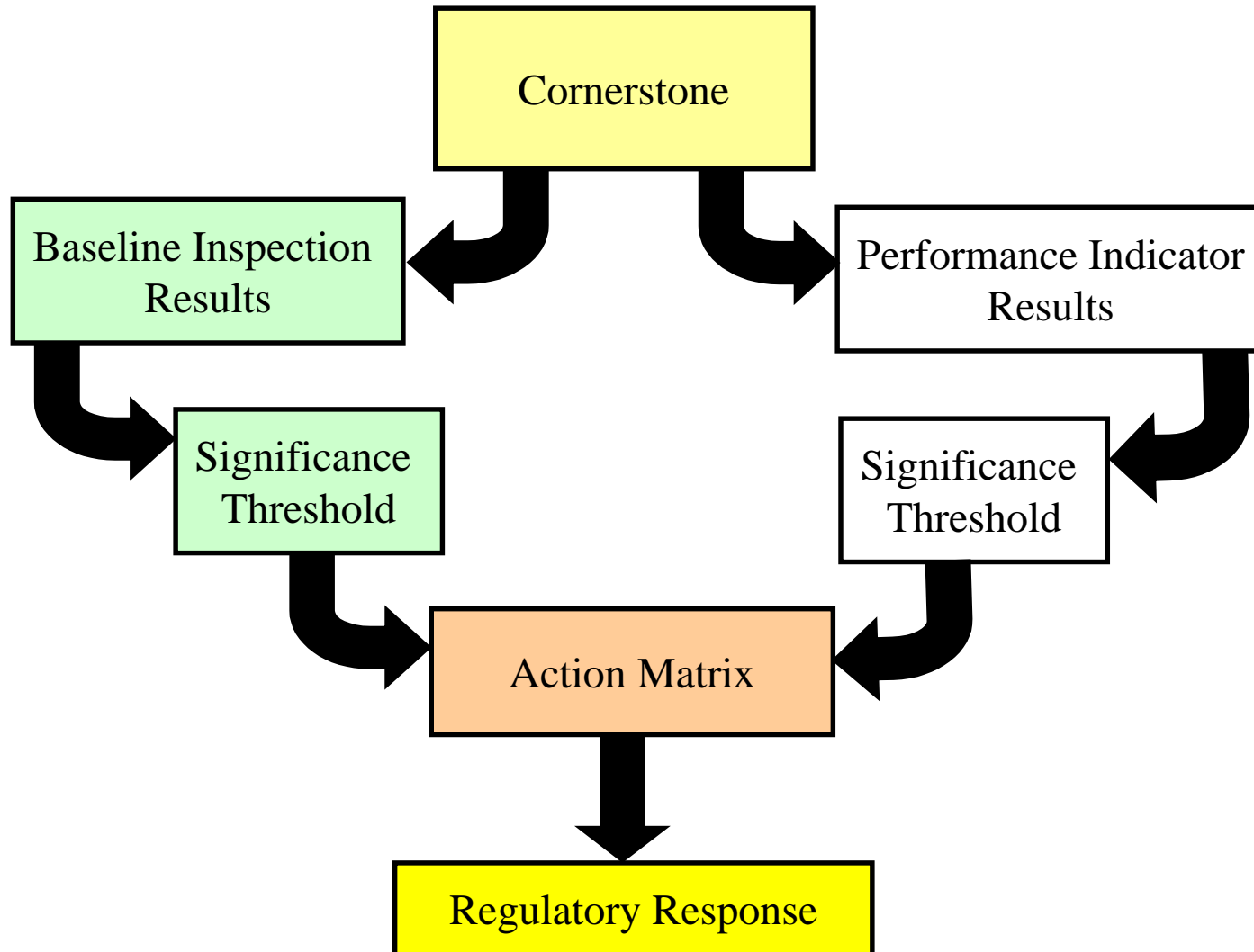


Assessment

- Performance indicators and inspection findings are combined for an overall assessment of plant performance.
- Action matrix is used to assess performance and determine regulatory actions.



Revised Reactor Oversight Process





Action Matrix

		Licensee Response Column	Regulatory Response Column	Degraded Cornerstone Column	Multiple Repetitive Degraded Cornerstone Column	Unacceptable Performance Column
Results		All assessment inputs (performance Indicators (PI) and inspection findings) Green; cornerstone objectives fully met	One or two White inputs (in different cornerstones) in a strategic performance area; Cornerstone objectives fully met	One degraded cornerstone (2 White inputs or 1 Yellow input) or any 3 White inputs in a strategic performance area: cornerstone objectives met with minimal reduction in safety margin	Repetitive degraded cornerstone, multiple degraded cornerstones, multiple Yellow inputs, or 1 Red input ¹ ; cornerstone objectives met with longstanding issues or significant reduction in safety margin	Overall unacceptable performance; plants not permitted to operate within this band, unacceptable margin to safety
Response	Regulatory Conference	Routine Senior Resident Inspector (SRI) interaction	Branch Chief (BC) or Division Director (DD) meet with Licensee	DD or Regional Administrator (RA) meet with Licensee	EDO (or Commission) meet with Senior Licensee Management	Commission meeting with Senior Licensee Management
	Licensee Action	Licensee Corrective Action	Licensee corrective action with NRC oversight	Licensee self assessment with NRC oversight	Licensee performance improvement plan with NRC oversight	
	NRC Inspection	Risk-informed baseline inspection program	Baseline and supplemental inspection 95001	Baseline and supplemental inspection 95002	Baseline and supplemental inspection 95003	
	Regulatory Actions	None	Document response to degrading area in assessment letter	Document response to degrading condition in assessment letter	10 CFR 2.204 DFI 10 CFR 50.54(f) letter CAL/Order	Order to modify, suspend, or revoke licensed activities
Communications	Assessment Report	BC or DD review / sign assessment report (w/ inspection plan)	DD review / sign assessment report (w/ inspection plan)	RA review / sign assessment report (w/ inspection plan)	RA review / sign assessment report (w/ inspection plan) Commission informed	
	Public Assessment Meeting	SRI or BC meet with Licensee	BC or DD meet with Licensee	RA discuss performance with Licensee	EDO (or Commission) discuss performance with Senior Licensee Management	Commission meeting with Senior Licensee Management
Increasing Safety Significance →						

¹ It is expected in a few limited situations that an inspection finding of this significance will be identified that is not indicative of overall licensee performance. The staff will consider treating these inspection findings as exceptions for the purpose of determining appropriate actions.



Enforcement Overview

Violations will be divided into two groups:

- 1 Violations that can be assessed by the significance determination processes (SDP).
- 2 Violations subject to traditional enforcement process.



SDP Assessed Violations

- SDP will characterize risk associated with violation.
- Low risk significant violations will be non-cited and entered into corrective action program.
- Higher Risk significant violations will be subject to requirements of Action matrix.





Traditional Enforcement Actions

- Willfulness including discrimination.
- Actions that may impact NRC's ability for oversight of licensee's activities.
- Actual consequences such as an overexposure to public or plant personnel or a substantial release of radioactive material.